

Claims

- [c1] 1.A method for analyzing operational performance of industrial power plant machinery, the method comprising:
receiving an input configuration for a power plant to be analyzed;
receiving inputted power plant operational information;
running a simulated power plant operation for a specified period of time, based upon said power plant input configuration and said inputted power plant operational information; and
outputting simulated results of said simulated power plant operation in accordance with selected economic parameters of said power plant.
- [c2] 2.The method of claim 1, wherein said input configuration and said inputted power plant operational information is received through a web-based user interface.
- [c3] 3.The method of claim 2, wherein said inputted power plant operational information includes dynamic inputs, fixed inputs and contract constraints.
- [c4] 4.The method of claim 2, wherein said selected economic parameters of said power plant include parts cost, parts life and parts performance.
- [c5] 5.The method of claim 2, wherein said input configuration for a power plant to be analyzed is based upon a selected power plant configuration from a menu included in said web-based user interface.
- [c6] 6.The method of claim 2, further comprising determining an operational profile of said power plant, said operational profile being determined in accordance with user inputted operational rules.
- [c7] 7.The method of claim 2, further comprising:
updating machine degradation data;
updating an inspection plan;
determining, from said updated inspection plan, whether an inspection is required; and
if an inspection is required, then placing said power plant into an inspection mode in which said power plant is unavailable during said simulated power

plant operation for a period of time coinciding with an actual inspection.

- [c8] 8.The method of claim 2, further comprising using said simulated results of said simulated power plant operation to evaluate the value of new product introduction (NPI) with respect to additional performance thereof versus the cost thereof.
- [c9] 9.The method of claim 2, further comprising using said simulated results of said simulated power plant operation to evaluate the value of conversion, modification and upgrade (CMU) of components with respect to additional performance thereof versus the cost thereof.
- [c10] 10.The method of claim 2, further comprising using said simulated results of said simulated power plant operation for evaluating a trade-off analysis of component life to performance.
- [c11] 11.A simulation tool for analyzing operational performance of industrial power plant machinery, the simulation tool comprising:
a user interface for inputting a power plant configuration and for inputting power plant operational information; and
a simulation engine for running a simulated power plant operation for a specified period of time, based upon said power plant configuration and said power plant operational information;
wherein simulated results of said simulated power plant operation are outputted in accordance with selected economic parameters of said power plant.
- [c12] 12.The simulation tool of claim 11, wherein said input configuration and said inputted power plant operational information is received through a web-based user interface.
- [c13] 13.The simulation tool of claim 12, wherein said inputted power plant operational information includes dynamic inputs, fixed inputs and contract constraints.
- [c14] 14.The simulation tool of claim 12, wherein said selected economic parameters of said power plant include parts cost, parts life and parts performance.

- [c15] 15.The simulation tool of claim 12, wherein said input configuration for a power plant to be analyzed is based upon a selected power plant configuration from a menu included in said web-based user interface.

- [c16] 16.The simulation tool of claim 12, wherein said simulation engine determines, in accordance with user inputted operational rules, an operational profile of said power plant.

- [c17] 17.The simulation tool of claim 12, wherein said simulation engine updates machine degradation data and updates an inspection plan, and said simulation engine further determines, from said updated inspection plan, whether an inspection is required, wherein if an inspection is required, then said simulation engine further places said power plant into an inspection mode in which said power plant is unavailable during said simulated power plant operation for a period of time coinciding with an actual inspection.

- [c18] 18.The simulation tool of claim 12, wherein said simulated results of said simulated power plant operation provide data for evaluation of the value of new product introduction (NPI), with respect to additional performance thereof versus the cost thereof.

- [c19] 19.The simulation tool of claim 12, wherein said simulated results of said simulated power plant operation provide data for evaluation of the value of conversion, modification and upgrade (CMU) of components, with respect to additional performance thereof versus the cost thereof.

- [c20] 20.The simulation tool of claim 12, wherein said simulated results of said simulated power plant operation provide data for evaluation of a trade-off analysis of component life to performance.